# Exhibit 1

# Sequence ID Numbers

Table detailing the sequences in the application identified by a Sequence ID Number.

| SEQ ID NO                               | Sequence                       | Page/Figure | Description of Sequence   |
|---|--------------------------------|-------------|---|
|   | EVPGSQHI                       | 6           | Residues 51-58 of the Escherichia coli EtxB and Vibrio cholorae CtxB          |
|   |                                |             | proteins (the β4-α2 exposed loop). May be mutated at any site.                |
| 2                                       | EVPGSQHI                       | 6           | Residues 51-58 of the Escherichia coli EtxB and Vibrio cholorae CtxB          |
|   |                                |             | proteins (the β4-α2 exposed loop). May be mutated at sites 51, 56 or 57.      |
| 3                                       | EVPGSQHI                       | 6           | Residues 51-58 of the Escherichia coli EtxB and Vibrio cholorae CtxB          |
|   |                                |             | proteins (the \( \beta 4-\alpha 2\) exposed loop). May be mutated at site 57. |
| 4                                       | SIINFEKL                       | 45          | Synthetic peptide used to construct EtxB conjugates.                          |
| EC.                                     | CSIINFEKL                      | 45          | Synthetic peptide used to construct EtxB conjugates.                          |
| 9                                       | CEKLAGFGSIINFEKL               | 45          | Synthetic peptide used to construct EtxB conjugates.                          |
| 7                                       | CAVGAGATAEESIINFEKL            | 45          | Synthetic peptide used to construct EtxB conjugates.                          |
| 8                                       | CEKLAGFGAVGAGATAESIINFEKL      | 45          | Synthetic peptide used to construct EtxB conjugates.                          |
| 6                                       | CEKLAGFGARGAGATAESIINFEKL      | 45          | Synthetic peptide used to construct EtxB conjugates.                          |
| 10                                      | CEKLAGFGAVGAGATAESIINFEKLTEWTS | 45          | Synthetic peptide used to construct EtxB conjugates.                          |
| 11                                      | AGFGAVGAGATAEE                 | 49          | Loop segment of the Pol-peptide of HSV-1                                      |
| *************************************** |                                |             |   |

| SEQ ID NO | Sequence   | Page/Figure | Description of Sequence  |
|-----------|--|-------------|--|
| 12        | TPQNITDLCA EYHNTQIHTL NDKIFSYTES<br>LAGKREMAII TFKNGATFQV EVPGSQHIDS<br>QKKAIERMKD TLRIAYLTEA KVEKLCVWNN<br>KTPHAIAAIS MAN | Figure 1    | CtxB – <i>Vibrio cholerae</i> cholera toxin B subunit protein sequence     |
| 13        | TPQNITDLCA EYHNTQIFTL NDKIFSYTES<br>LAGKREMALI TFKNGATFQV EVPGSQAIDS<br>QKKALERMKD TLRIAYLTEA KVEKLCVWNN<br>KTPHALAAR      | Figure 1    | Mutant CtxB (H57A)   |
| 41        | APQTITELCS EYRNTQIYTI XDKILSYTES MADKREMVII TFKSGETFQV EVPGSQHIDS QKKAIERMKD TLRITYLTET KIDKLCVMNN KTPISIAAIS MEN          | Figure 2    | Mutant EtxB (G33D)   |
| 51        | APQTITELCS EYRNTQIYTI XDKILSYTES MAGKREMVII TFKSGETFQV EVPGSQHIDS QKKAIERMKD TLRITYLTET KIDKLCVWNN KTPISIAAIS MEN          | Figure 6    | EtxB - Escherichia coli heat-labile enterotoxin B subunit protein sequence |
| 16        | APQTITELCS EYRNTQIYTI XDKILSYTES MAGKREMVII TFKSGETFQV EVPGSQAIDS QKKAIERMKD TLRITYLTET KIDKLCVWNN KTPISIAAIS MEN          | Figure 11   | Mutant EtxB (H57A)   |

# SEQ ID NOS 4-10:

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Synthetic peptides used to construct EtxB conjugates, as listed in Table 1, page 45.

| Peptide | Sequence                       | $M_{ m w}$ | Seq ID<br>No |
|---------|--------------------------------|------------|--------------|
|         |                                |            |              |
| 9mer    | CSIINFEKL                      | 1048       | 5            |
| 16mer   | CEKLAGFGSIINFEKL               | 1751       | 6            |
| 19mer   | CAVGAGATAEESIINFEKL            | 1905       | 7            |
| 26mer   | CEKLAGFGAVGAGATAESIINFEKL      | 2608       | 8            |
| 26mer*  | CEKLAGFGARGAGATAESIINFEKL      | 2665       | 9            |
| 31mer   | CEKLAGFGAVGAGATAESIINFEKLTEWTS | 3212       | 10           |

# SEQ ID NO11:

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Loop segment of the Pol-peptide of HSV-1

**AGFGAVGAGATAEE** 

# SEQ ID NO12:

# Figure 1

# Protein sequence of Vibrio cholerae CtxB

TPQNITOLCA EYHNTQIHTL NDKIFSYTES LAGKREMAII TFKNGATFQV EVFGSQHIDS QKKAIERMKD TLRIAYLTEA KVEKLCVWNN KTPHAIAAIS MAN

# SEQ ID NO13:

# Mutant CtxB protein sequence (H57A)

TPQNITDLCA EYHNTQIHTL NDKIFSYTES LAGKREMAII TFKNGATFQV EVPGSQAIDS CKKAIERMKD TLRIAYLTEA KVEKLCVWNN KTPHAIAAIS MAN

# SEQ ID NO14:

# Mutant EtxB protein sequence (G33D)

APQTITELCS EYRNTQIYTI XDKILSYTES MADKREMVII TFKSGETFQV EVPGSQHIDS OKKAIERMKD TLRITYLTET KIDKLCVWNN KTPISIAAIS MEN

# SEQ ID NO15:

# Protein sequence of Escherichia coli EtxB

APQTITELCS EYRNTQIYTI XDKILSYTES MAGKREMVII TFKSGETFQV EVPGSQHIDS QKKAIERMKD TLRITYLTET KIDKLCVWNN KTFISIAAIS MEN

# SEQ ID NO16:

# Mutant EtxB protein sequence (H57A)

APQTITELCS EYRNTQIYTI XDKILSYTES MAGKREMVII TFKSGETFQV EVPGSQAIDS QKKAIERMKD TLRITYLTET KIDKLCVWNN KTPISIAAIS MEN